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EXAMINER

DOAN, PHUOC HUU

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/535,283	Applicant(s) BAIAMONTE ET AL.	
	Examiner PHUOC H. DOAN	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-19 and 31-38 is/are allowed.
- 6) ☒ Claim(s) 1-12 and 20-30 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/17/05</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 38 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As to claim 38, claim limitation recited “**Computer program product able to be loaded directly into the memory of at least one digital computer and comprising portions of software** to implement the step...” are non-statutory because it does not define any structural and functional interrelationships between computer hardware, and the software application which permit the computer program’s functionality to be realized, as they are not “act” being performed. For example, **the software application can be executed by computer hardware/apparatus** to encoding/decoding in order to transmission on the dedicated DCH channel.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, and 20-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denkert (US Patent No: 6,374,117) in view of Galand (US Patent No: 6,104,998).

As to claim 1, Denkert discloses a method for managing the transmission of information packets on channels of a telecommunications network (col. 4, lines 48-53 “desirable for real time communication services in the wireless packet data network”), characterised in that it comprises the steps of: arranging said packets into user queues received in respective buffers (col. 3, lines 16-21 “data packet stored in a buffer approaches a threshold time”), by measuring the occupancy level of said buffers (col. 4, lines 48-55 “the power control algorithm 300 can receive measurement data”), sorting said users into respective classes (RT, NRT) identified by the service modes requested by said users (col. 5, lines 55-65 “the QoS parameter, be one of a plurality of class attributes defined in a user’s subscription or profile”), measuring the propagation conditions on the transmission channel respectively associated to said users (col. 5, lines 15-20 “with measured or anticipated packet delay, the power control algorithm can be a function of queuing delay or some

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other delay variable”), and determining the priority in the transmission of said packets (col. 5, lines 40-45 “decision process for prioritizing transmission by increasing the transmit power”), by choosing the order in which said respective queues are visited as a function of: a first level priority (col. 6, lines 40-50”), linked to whether said users belong to said respective classes (RT, NRT), a second level priority, linked to at least a parameter chosen between the occupancy level of the respective buffer and the propagation conditions of said respective channel (col. 5, lines 20-65 “based on a plurality of class attributes defined in a user's subscription and priority levels to calculate a delay threshold value”. However, Denkert does not disclose the first and second level priority in classes (RT, NRT).

In the same field of endeavor, Galand discloses the first and second level priority in classes (RT, NRT) ((col. 3, lines 45-64 “the packet is enqueued in one of three possible queues, according to its priority or class are defined as real time and non real time RT1, RT2, etc...”). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first and second level priority in classes (RT, NRT) as taught by Galand to the system of Denkert in order to detect the traffic under congesting conditions, and help to select packets droppable in network nodes as required.

As to claim 2, Galand further discloses a method as claimed in claim 1, characterised in that among the users with the same first level of priority (col. 3, lines 53-56), the user with the highest buffer occupancy is chosen (col. 3, lines 56-62).

As to claim 3, Denkert further discloses a method as claimed in claim 2, characterised in that, for equal buffer occupancy (col. 5, lines 1-7), the user demonstrating the best channel propagation conditions is chosen (col. 5, lines 50-65 “delay threshold in user’s subscription follow by power control algorithm for establishing priority transmission”).

As to claim 4, the combination of Denkert and Galand further discloses a method as claimed in claim 1, characterised in that among the users with the same first level priority (col. 3, lines 53-56 of Galand), the user demonstrating the best channel propagation conditions is chosen (col. 5, lines 50-65 “delay threshold controlled by power control algorithm based on the channel propagation condition”).

As to claim 5, Denkert further discloses a method as claimed in claim 4,

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characterised in that, for equal channel propagation conditions (col. 5, lines 4-10), the user with the highest buffer occupancy is chosen (col. 5, lines 30-40).

As to claim 6, Galand further discloses a method as claimed in any of the claims from 1 to 5, characterised in that it comprises the step of dividing said users into: at least a first class (RT) (col. 3, lines 45-55), comprising users who require conversational or streaming services (col. 10, lines 25-30), and at least a second class (NRT), comprising users who require interactive or background services (col. 4, lines 21-40).

As to claim 7, Denkert further discloses a method as claimed in any of the previous claims, characterised in that it comprises the step of: determining the transmission capacity available for the transmission of said packets (col. 4, lines 45-55), by identifying a negotiated peak transmission rate value (col. 4, lines 55-65), trying to assign to the highest priority user the transport format corresponding to said peak rate (col. 5 lines 1-10), by transmitting the related queued packets in case of positive outcome of said assignment (col. 5 lines 5-10), in case of negative outcome of said assignment (col. 5, lines 15-20 “anticipated packet delay”), trying to allocate to said highest priority user

the next highest transport format (col. 5, lines 40-50), said attempts with lower format being continued until the allocated rate falls within the available capacity (col. 6, lines 20-40 "coding rates can also be varied by the link adaptation function").

As to claim 8, Denkert further discloses a method as claimed in claim 7, characterised in that it comprises, after transmitting the information packets associated to said highest priority user (col. 6 lines 1-10), the step of detecting any available residual transmission capacity and the step of repeating the previous steps for said higher priority user (col. 5, lines 55-65), for the user with the next highest priority (col. 5 lines 40-50), until there are no more said transmission resources or active users (col. 6 lines 40-54).

As to claim 9, Denkert further discloses a method as claimed in any of the previous claims, applied to a transmission network organised in respective cells in which said transmission resources are shared with real time services which are given top priority (col. 4, lines 45-55), characterised in that it comprises the step of estimating the residual capacity of the respective cell left free by said real time services available for the transmission of said information packets (col. 5, lines 30-45).

As to claim 10, Galand further discloses a method as claimed in any of the previous claims, characterised in that it comprises an access control (AC) function configured to allow entry into the system to users with information packets to be transmitted (col. 3, lines 45-55); the access being conducted, for at least some (NRT) of said users by evaluating exclusively the possibility for said users to transmit their information packets with the minimum rate prescribed by the set of transport formats of the network (col. 3 through col. 4, lines 65-39 “one specified bit of each packet header was tagging”).

As to claim 11, Galand further discloses a method as claimed in claim 1 or claim 10, characterised in that a packet scheduling function (PS) is provided (Fig. 8, item 801), configured to verify that at least some (NRT) of said users transmit without congesting the radio interface (col. 3 lines 55-65), by controlling and setting (col. 3 lines 55-65 “scheduler looks at the none real time queue and serves a non real time packet”), on a case by case basis, the rate of the respective dedicated connection in order not to exceed a given limit imposed by the characteristics of said network (col. 4, lines 1-15 “based on the detected along any network path connection and selecting data

packets”).

As to claim 12, Galand further discloses a method as claimed in any of the previous claims, characterised in that it comprises the step of organising the transmission of said information packets by means of a state machine which allows (col. 3 lines 45-50): a first state (102) corresponding to the recognition of the fact that information packets are present in at least one of said respective buffers (col. 3 lines 30-35), a second state (104) corresponding to the transmission of said information packets by means of corresponding transmission resources (col. 3, lines 40-45), and a suspended state (106) corresponding to the recognition of the unavailability of resources for the transmission of said information packets with the conservation of said transmission channel (col. 4, lines 1-10), said state machine being capable of evolving anew from said third state (106) to said second state (104) without dropping said transmission channel, when said transmission resources become available again (col. 4, lines 25-51).

As to claim 20, claim is rejected for the same reasons as set forth in claim 1.

As to claim 21, claim is rejected for the same reasons as set forth in claim 2.

As to claim 22, claim is rejected for the same reasons as set forth in claim 3.

As to claim 23, claim is rejected for the same reasons as set forth in claim 4.

As to claim 24, claim is rejected for the same reasons as set forth in claim 5.

As to claim 25, claim is rejected for the same reasons as set forth in claim 7.

As to claim 26, claim is rejected for the same reasons as set forth in claim 8.

As to claim 27, claim is rejected for the same reasons as set forth in claim 9.

As to claim 28, claim is rejected for the same reason as set forth in claim 10.

As to claim 29, claim is rejected for the same reason as set forth in claim 11.

As to claim 30, claim is rejected for the same reason as set forth in claim 12.

Allowable Subject Matter

3. Claims 13-19, and 31-38 are allowed.

As to claim 13, 31, the prior art of record either alone or combination does not disclose in which said information packets can be selectively transmitted, within said cells, both on a shared channel (RACH/FACH) and on a dedicated channel (DCH), comprising a module for managing packet scheduling (PS) configured to: transmit the information packets of a determined user on said shared channel (RACH/FACH) or on a respective dedicated channel (DCH) as a function of a related traffic volume, define at least one threshold (T1, T2) of traffic level, determining the switching of the transmission of the information packets of said determined user on said dedicated channel (DCH) starting from said shared channel (RACH/FACH) when the related traffic level grows reaching said at least one threshold (T1, T2) and determine the switching of the transmission of the information packets of said determined user on said shared channel (RACH/FACH) starting from said dedicated channel (DCH) when said respective traffic volume drops reaching said at least one threshold (T1, T2), characterised in that said module for managing packet scheduling (PS) is configured selectively to vary the level of said at least one threshold (T1, T2).

Dependent claims 14-19, and 32-38 are allowed by virtue of dependency in independent claim 1, and 31.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUOC H. DOAN whose telephone number is 571-272-7920. The examiner can normally be reached on 9:30 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, VINCENT HARPER can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/VINCENT P. HARPER/
Supervisory Patent Examiner, Art Unit 2617

/PHUOC DOAN/
06/19/08